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# THE NON-VENEREAL AFFECTIONS OF THE GENITALIA \*

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THE choice of this subject was suggested by Callomon's useful book, which has recently achieved a second edition, and I am indebted to the author, whose acquaintance I made at a Congress in Bonn, in 1927, for much of the material and arrangement of the ensuing paper.

To compress even a tithe of his carefully selected information into the small compass at my disposal is beyond my power, and would greatly tax your attention. I propose to discuss only such conditions under the title as are commonly seen by the dermatologist, and of which I have had personal experience.

Without troubling you too much with definitions and classification, I will ask you to envisage a very considerable number of cutaneous diseases, which, although they are not venereal in the ordinary sense of the term, may, nevertheless, be contracted in sexual intercourse, and probably for that reason are frequently seen in venereal clinics. I propose to consider them under the following headings, and, so far as that is possible, in the order of their frequency :—

- (1) Genital manifestations of the more important dermatoses.
- (2) Pruritus anogenitalis.
- (3) (a) Genital dermatomycosis (ringworm); (b) the epizootic infections.
- (4) Herpes genitalis. Molluscum contagiosum. Condyloma acuminatum.
- (5) Non-venereal ulcers of the genitalia.
- (6) Certain lymphatic affections.

Such a classification absolves me from all reference to the urethra and the genital adnexa in both sexes, and I

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shall also omit the discussion of tumours, which seem to me to belong to the domain of the surgeon.

You will remember that the epidermis covering the genitalia is as thin and delicate as any on the body, and that especially in the male the juxtaposition of skin surfaces renders the area prone to friction and overheating. Another feature is the specialised structure of the scrotal skin which incorporates that vestigial sheath, the dartos muscle, and a large collection of sweat and sebaceous glands, which are not infrequently a source of trouble in inflammatory conditions. We have also to remember the close proximity of the anus, which in the female especially may alternate as a source of serious subjective trouble with the vulva. Bearing these points in mind, it is not surprising that the genitals, if not the special, are at any rate an exceedingly common site of many of the dermatoses which affect the rest of the body, and as among them, so in this area, *eczema*, or dermatitis, is the commonest.

As part of a general involvement we need not consider it, except to mention that moisture is practically invariable—in fact, usually the first evidence of cruro-genital invasion.

When the *eczema* is limited to this area it is usually termed intertrigo, and in obstinate cases that resist the simple hygienic measures of proper clothing and protection and the application of soothing remedies, our thoughts should turn to underlying causes among which pediculi, oxyuris, glycosuria, dysentery, enteritis of various kinds, and seborrhœic infection are the most common.

In connection with pediculi, it is worthy of note that the initial pruritus is frequently aggravated and sometimes stimulated into a very severe pubic and crural dermatitis by the application of much too powerful parasiticide ointments, *e.g.*, Ung. cinereum, which is still prescribed for the purpose, and is still perhaps the most frequent cause of mercurial dermatitis. The pediculus is easily killed by one or two applications of benzole, and in a taxi drive across Paris during the war the great Darier himself told me that ordinary vaseline would asphyxiate the parasite by clogging the respiratory functions!

The thread-worm is the cause which should be sought in obstinate cases of anogenital *eczema* of children, while in older persons, especially stout women, or men

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with eczematous foreskins, the urine should be examined chemically for sugar and bacteriologically for *B. coli*.

I have under treatment a middle-aged pensioner who develops a widespread eczema of this region after every not infrequent relapse of the mucous colitis for which he was invalided, while my cases of seborrhœic eczema, distinguished by their yellowish-brown, greasy, infiltrated and often discreet configuration, are a frequent source of trouble both in hospital and private practice. Hæmorrhoids, and more particularly fissure in ano, ought never to be overlooked in investigating the cause, and one which Castellani has recently observed, mycotic dermatitis, will be referred to later. The list is not exhausted, but whatever the ætiology, which in chronic cases may long since have ceased to act, the special eczemas of the scrotum and vulva will tax your therapeutic skill to the uttermost. The epidermis in such cases may be said to have undergone a structural alteration, which sometimes only the careful application of X-rays can influence, and tend to restore to its normal functions. If the cause is still acting and can be eliminated the outlook is better, but the prognosis should always be most guarded in cases in which the condition has been present a long time.

A chronic, dry form of eczema of which the cause so far remains obscure, and which favours the genito-crural region, though by no means limited to it, is that to which the term "neurodermatitis chronica circumscripta" has been applied. It has a lichenoid character, and is intensely pruritic, and owing to the associated insomnia is sometimes a precursor of serious nervous breakdown.

I have said that the insomnia secondary to the pruritus is the cause of nervous symptoms, but is it not rather that in all these neurotic cases there is a common factor both for the itching and the other associated symptoms? It is not sufficient in these days to label the syndrome a neurosis and leave it at that. We must investigate the ætiology which in some cases is clearly a septic focus, in others a psychological complex, in a third group the result of metabolic disorder. As regards the treatment of eczema generally in these areas, the same laws as guide our therapy of the disease elsewhere hold good. In the words of F. Pinkus, we must exclude, and if possible eliminate, the causal factors, and then re-habilitate the normal reactions temporally altered (sensitisation is the

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modern term) by those and other fortuitous causes, such as rubbing and scratching, soiling with excreta and urine, etc. Each type of predisposing factor will require special investigation and control. Diet in glycosuria (insulin rarely) and in uricæmia, regulation of the feeding in the intertrigo of infants, treatment of vaginal discharges, hæmorrhoids, pediculi, colitis, etc., all these are examples of the need for care in coming to a decision on any special line of treatment. In cases in which the acute symptoms have subsided, and, if possible, the ætiology determined, there is no better and more convenient "desensitisor" than the X-rays. But they should never be given by any but the experts, for X-ray dermatitis, especially in these regions, is one of the most serious and intractable of all affections of the skin.

*Psoriasis*.—When this condition is universal the genito-crural areas are often implicated, but the type I would emphasise here is important for us because it is limited, and may in fact be the only manifestation of the patient's proclivity. As elsewhere, the attack may be acute or chronic. The latter is the most common form, for the acute tend to generalisation and offer no great diagnostic difficulty. The scrotum and penis alone may be involved, and you should suspect the disease if a brownish-red slightly scaly infiltration with sharply demarcated edges are the features. Suppuration rarely masks the symptoms, and itching is slight or entirely absent. Fissures, however, are common, sometimes very painful. Of particular interest to the venereologist are the cases in which the affection involves the glans and internal aspects of the prepuce. In cases with a negative W.R. such a case may puzzle the most experienced, and we shall be wise not to conclude too hastily that we are dealing with a case of tertiary, non-ulcerative syphilis, with a non-reacting serum. On the vulva we may have an even greater difficulty in making up our minds, for the liability to macerating effect of the urine, which may have become secondarily infected, is much greater than in the male. And here I would pause to draw your attention to a pitfall not often emphasised. It does not follow that because you find a urine full of coli, streptococci and other contaminations, that these are the cause of the disease for which you have summoned bacteriological aid. Psoriasis and, even more commonly, a mycotic

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infection are good examples of underlying causes, which, owing to the disorder of function initiated, almost inevitably lead to secondary infection, with a tendency to ascending spread. The anus is close by; what then more likely than a coli infection of the urine? And is not this a probable or one of the probable explanations of the all too frequent failures in vaccine therapy generally? Similarly with the fæces in cases of obscure pruritus ani. How frequently does the symptom yield to a vaccine alone? Surely here, too, the effect of local infection by scratching, etc., readily accounts for the "excess of streptococci, whether viridans, or fæcalis, or hæmolyticus," which are the features of most bacteriological reports in this field? But I digress. The differential diagnosis of cruro-genital psoriasis depends in the first place in bearing that possibility in mind, and excluding ulcerative conditions such as tertiary syphilis, and eczematous reactions (seborrhœic) already discussed, from the list. As regards the therapy, after soothing remedies, which may include weak resorcin lotions and creams, and even  $\frac{1}{4}$  per cent. chrysarobin in Lassar's paste, have effected deturgescence, the application of small doses of X-rays is again our most efficient weapon.

Lichen planus, which, as you know, has a pronounced tendency to affect the mucous membranes, may, like psoriasis, select those of the genitals for its manifestations. When it does so the skin may escape entirely, and when you suspect its presence you should immediately examine the buccal mucosa for the characteristic "china-white streaks." Itching is usually absent altogether, and the penile lesions may have persisted unobserved and symptomless for months or years. They consist of the typical polygonal, flat, brownish or bluish-red wax-like papules, and not infrequently group themselves in a circinate formation, thus suggesting a luetic ætiology. Ulceration never occurs. I should like to tell you briefly of one remarkable example of the disease which was sent to my clinic with the correct diagnosis by a colleague at another hospital, because, on the score of a positive W.R., his opinion was called in question. I was on a holiday at the time, and my clinical assistant, who saw the case, made a diagnosis of ringworm, and ordered X-ray treatment, which, as you know, is indicated in cases of tinea tonsurans. The lesions promptly cleared up, but relapsed

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in about two months' time, when I had an opportunity of seeing them and supporting my colleague's view, which was further confirmed by the presence of typical lesions on wrists and buccal mucous membranes. The case illustrates the paradox that a faulty diagnosis may occasionally be corrected by recourse to the wrong treatment ; two blacks do occasionally make one white. On the vulva the isolated manifestation is very rare. I have never seen a case. The papules are said to occur on the inner aspects of the labia minora. In both sexes involution usually occurs spontaneously or after prolonged arsenical medication, and pigmented or depigmented spots in the mucosa may persist for a very long time thereafter. X-rays are the most convenient therapeutic aid, and here again extreme care is necessary to avoid a burn.

*Urticaria*.—Ordinary urticaria does not, so far as I am aware, affect the genitalia alone, but that sub-division of it, termed *U. gigans*, or Quincke's oedema, is especially prone to attack the scrotum or one labium majus, owing to the loose texture of these structures. The swelling is quite painless as a rule, and the absence of febrile disturbance and glandular swelling, etc., should be sufficient to protect the patient from resort to surgical measures. The onset is always sudden, and usually there is a history of similar swellings in other parts of the body. Recurrence in the same part is frequent, and demands a full investigation on the same lines as that prevailing for the more common urticaria of septic or metabolic origin. As a valuable emergency measure I recommend the intravenous injections of afenil (a calcium-urea compound), or the intramuscular administration of evatmine, or other adrenalin preparation.

*Medicinal Eruptions*.—Genital eruptions from this cause are almost invariably missed, and yet the site is a favourite one for their localisation and residuum, after the rash on other parts of the body has subsided. There is nothing very characteristic about them. They may be scarlatiniform or morbilliform, and even purpuric, and the patient will often keep us from error by noting that exacerbations of his trouble seem to follow the administration of certain drugs, such as antipyrin, veramon, or phenolphthalein.

The latter is specially worthy of mention, because it is

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frequently an ingredient of laxative mineral oils and pills, guaranteed by the makers not to irritate or engender the aperient-taking habit.

I came to grief recently over a case in which I made the confident diagnosis of pityriasis rosea. The eruption gradually assumed a fixed urticarial or exudative type, and completely falsified my prognosis. Eventually I advised another opinion, and a senior colleague put things right by cutting off the harmless liquid paraffin which had been taken for years! Local applications are, of course, a more frequent source of medicinal eruptions on the genitalia, and paraffin workers, and those who manipulate arsenical substances, and chimney sweeps, and the mule spinner (mineral oil) often contract a most troublesome form of eczema of the scrotum, which may end in epithelioma.

The halogen derivatives, quinine in pessaries (both sexes liable), and mercury, if the patient is sensitive, should also be memorised as occasionally causal. The diagnosis from the clinical appearances of the rash is always difficult. The same drug may call forth diverse eruptions in different subjects, while a susceptible subject may react with the same type of eruption to more than one medicament. One can only avoid being misled by bearing in mind the possibility of drug causation in every eruption which does not fit into the frame of recognisable dermatoses, and by holding a watching brief, very much in the same way as one has to do in cases of suspected self-infliction.

*Erythema Exudativa Multiforme ; Pemphigus Vulgaris.*  
—We will consider these two eruptions together because, although they are only a part of a general disease, they not infrequently present their primary manifestations on the external genitalia, and also because both of them show a rapid tendency to the formation of bullæ, which necrose with the production of intractable ulcers. Both may affect the buccal mucous membrane, but in the first-named the bullæ are flaccid, arise on an inflammatory base, and are more indolent in their evolution. The pemphigus bulla is only slightly inflammatory, and there is nothing fulminating in its development. The onset is insidious, and pain is not complained of as a rule. The contents are clear on first appearance, but within a few hours becomes turbid and then purulent. Other areas,

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such as the pubic and axillary, soon share in the involvement, and when this occurs the diagnosis is no longer in doubt, and the prognosis becomes correspondingly grave.

The outlook in erythema multiforme is good as soon as the cause—which is usually a buccal or intestinal sepsis—has been dealt with. Both diseases have to be diagnosed from impetigo, and this is not difficult as a rule, for there is no yellow crust formation or marked adenitis, as with impetigo, which, furthermore, is usually a disease of children, and responds quickly to mild antiseptic treatment. Salicylates are almost specific in erythema multiforme. I need hardly emphasise the importance of not confusing it with syphilitic ulceration and chancrum molle.

Lack of time and their extreme rarity excuses a detailed consideration of the local manifestations of lupus erythematosus, acne, milia, atheromata, xanthomata, calcifications, and pigment changes.

I should like now to discuss the extremely common and important subject of anogenital pruritus. It is presumed that all the visible causes of the symptom, most of which I have already touched upon, have been eliminated, and that the urine has been examined for sugar and albumin without positive findings. The patients fall readily into two main categories: the well-nourished opulent, middle-aged man of sedentary habits, and the nervous, highly-strung woman of temperate and otherwise blameless disposition. The degree of pruritus varies enormously, from a slight tickling at odd moments to itching of such intensity and persistence as to lead to psychical disturbance, sometimes ending in suicide or the asylum. There are cases in which investigation by our most experienced physicians is fruitless, and our most valued therapeutic standbys, *e.g.*, X-rays or radium, are powerless to afford relief, but every one of them should be put through certain routine examinations. Blood-sugar curves and counts for leukæmia should be ordered, and elimination of the possibility of morphinism or the cocaine habit should not be forgotten, as it usually is, and gout, which usually is not. Metabolic and digestive disorders of obscure origin and idiosyncrasies to drugs and foodstuffs also merit consideration. The list of possible causes is almost inexhaustible, and the point I would like to emphasise is that no case should be lightly dismissed as



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hysterical and turned over to the mercies of psychoanalysis, or the even more dangerous persistence of the unqualified radio-therapist. A lady recently consulted me for the symptom. It had been present in a greater or lesser degree for six years, and for the last two of these she had been treated with X-rays by a nurse, at intervals of about a fortnight, with some relief. Her daughter had recently developed the symptom and was about to undergo the same treatment. On examination of the mother I found some degree of radiodermatitis of the vulva and cruro-genital areas, while at the periphery of this artifact there were the obvious circinate scaly marks of chronic tinea cruris. The daughter had acute dthobie itch, and the same fungus was successfully grown from both patients, whose pruritus was relieved in a week with Whitfield's ointment. In connection with the absence of any visible cause for the symptom of pruritus anogenitalis it is well worth noting that Castellani has recently stated that in fifty-four cases without specific skin lesions he found the epidermophyton inguinale, and rubrum, in eleven, on cultural examination, and also states his belief that certain types of monilia are sometimes a cause. The observation is extremely important, and it is significant that the empirical use of parasiticide lotions and ointments has cured obstinate cases in the past. In considering therapy it cannot be too strongly emphasised that there is no standard line of treatment. Every case must be individually investigated on the lines suggested. Of those with negative findings a considerable proportion yield to X-ray or radium treatment, and in one case which proved irresponsive to these I was able to afford some relief with absolute alcohol injections under general anæsthesia. In another case I succeeded in producing temporary alleviation after X-rays had failed with *Benacol* injections. This is a compound of anæsthesin and benzyl alcohol. I am hoping for a further trial, and Messrs. Allen and Hanbury have put on the market an English equivalent of the American original to which they have given the name of A.B.A. (anæsthesin 3 per cent., benzyl alcohol 5 per cent. and æther in oil 10 per cent.). The alleviation can, of course, be only temporary, as no nerve destruction is aimed at.

Mycotic infections of the genital area are exceedingly common, and should receive a primary consideration

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when the patient complains of an irritating eruption in this region. In two of them, erythrasma and pityriasis versicolor, the symptoms are so slight that it may be months or years before the patient thinks it worth while to consult a doctor. The *Microsporon minutissimum*, which causes the former, although discovered in 1852, still defies cultural methods, but can usually be demonstrated in cover-glass preparations in potash. The mycelium grows in the upper layers of the horny cells, and there produces a sharply demarcated non-inflammatory collection of reddish or yellowish-brown patches, with scarcely noticeable scaling. The inner aspects of the thighs are most commonly affected, but the scrotum occasionally shows some evidence of infection by contact. Mild parasiticide ointments rapidly effect a cure. Relapse is common. Pityriasis versicolor is very similar in its symptomatology. The lesions are more brown in colour, and it differs from erythrasma in attacking other regions of the body, *e.g.*, the chest and back. The responsible fungus is the *Microsporon furfur*, which grows readily on maltose agar.

Ringworm of the groin, dhobie itch or epidermophytosis, to give it a more scientific name, causes much more definite symptoms than these saprophytic infections. Like them, however, the growth is centrifugal, and rings, or at least convex margins, are one of the diagnostic points. Vesicle formation is another, for the reaction is much more violent, and the itching is always severe. Pus formation is common and the fungus is then demonstrated only with difficulty. It should be looked for in the roof of the clear, unbroken vesicle, never in the scales.

Epidermophyton inguinale also affects the interdigital spaces of the toes, notably the fourth and fifth, and these should always be examined in cases of tinea cruris. The most likely vehicle of infection would seem to be by way of the bath towel. Certain trichophyta, which differ from the epidermophyta in their ability to attack the hair as well as the glabrous skin, have also been found in this disease. The differential diagnosis is not difficult, and turns on the presence of rapidly developing circinate scaly and erythematous lesions with small intensely irritable vesicles in their periphery. Microscopic and cultural tests decide in doubtful cases. The therapy

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should be sedative and only mildly antiseptic in acute weeping cases. Parasiticide remedies, such as chrysa-robin, should be postponed until the inflammatory and septic complications are in abeyance. Castellani has recently devised a lotion or pigment containing acid fuchsin, carbolic acid, acetone and resorcin, which he maintains can be applied with success in all stages. Favus and oidium albicans, the cause of thrush in infants, can produce analogous symptoms in the crural region, but are of great rarity.

Of the epizootic infections, which include pediculi and the acarus of scabies, the latter is chiefly important because it is possible sometimes to diagnose a general infection on the presence of a single acarine burrow on the foreskin. I have twice succeeded in recovering the parasite in this situation and proving my suspicions to a doubting patient, in whom the usual signs were lacking or deficient.

Under our fourth heading we have now to discuss three interesting minor lesions of the genitalia, which according to some recent work by Lipschütz have certain histological features in common, although their clinical appearances are entirely different. They are herpes genitalis, molluscum contagiosum and condyloma acuminatum.

In the nuclei and cell protoplasm in the rete malpighii of all three have been found vacuolated inclusion bodies which Lipschütz regards not as the actual causes of the lesions, but as a specialised type of cell reaction, of a protective character; hence the name suggested for them, chulamydozoa. As regards herpes genitalis, the presumed ultra-microscopic virus can certainly be transferred by coitus in the first instance. The lesions, as you know, consist of recurrent small grouped vesicles which rupture rapidly and leave small superficial denudations of the delicate epithelium of the glans or the labia, in which secondary infections by pus organisms, and even by the *Treponema pallida* and the bacillus of Ducrey, are apt to occur. Neither histologically nor bacteriologically can this disease be in any way related to herpes zoster, which furthermore is non-recurrent and non-contagious, and follows a definite nerve-root distribution. The actual lesions require protection with indifferent lotions and powders, etc., but we are at present powerless to prevent

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recurrences, although some success has been claimed for autohæmatotherapy and the local application of the X-rays.

The genital manifestations of molluscum contagiosum do not differ from those in other parts of the body, and the mucous membranes are not attacked. Neglected cases may assume large formations (*M. giganteum*), and sometimes septic infection supervenes with the formation of pustules which dry up and eventually fall off without scars resulting. In other cases the peculiar raised opalescent and centrally depressed lesions remain unchanged for years and then disappear spontaneously. The treatment is surgical. Small superficial incisions followed by digital expression, or the insertion of a small probe containing a fused particle of nitrate of silver, or the careful application of the actual cautery, suffice to determine a cure. The disease is contagious, has a long latent period, and can be conveyed by towels, etc. I have seen two widespread cases which were contracted in a Turkish bath. Condyloma acuminatum also varies in degree and distribution, but differs from the foregoing in affecting the mucous membrane in preference to the skin. The favourite situation is the coronal sulcus in the male and the introitus vaginæ and labia minora in the female. The small vegetating fungoid growths may coalesce, and form a pedunculated cauliflower-like mass, in which secondary infection is a common complication. The actual virus has not been isolated. Like herpes genitalis, it is conveyed in sexual intercourse, but does not rank as a venereal disease, any more than scabies or the common wart. Once established, it is not easy to eradicate the infection. I have a private patient who visits me every three or four months for the local recurrence of these minute papillomata in the sulcus coronarius. Before he first attended me some two and half years ago, local caustics, such as trichloracetic acid, had been applied. My first attempt with the actual cautery under a general anæsthetic seemed to have been successful, but the growths recurred in four months, and since then we have contented ourselves with occasional applications of CO<sub>2</sub> snow, and one treatment by X-rays. In the intervals he applies a resorcin-salicylic acid lotion. One naturally suspects re-infection in coitus as a cause of the recurrences, but the patient's assurances, coupled with

the curiously localised position of the lesions in the right lower segment of the sulcus, rather militate against that view. According to Waelsch the infecting agent of this disease and the common wart are identical, and E. Frei noted the development of verrucæ planæ in the area inoculated eleven months previously with condyloma acuminata, while Mühlpfordt describes a case of simultaneous warts and acuminate condylomata on the face.

I need scarcely stress the importance of the differential diagnosis of this disease in its later cauliflower stages from malignant growths of fungating type.

*Non-venereal Ulcers.*—The classification of these as suggested by Callomon is useful.

(1) Ulcerations following mechanical, chemical, thermal or electrical influences. Any trauma in this situation is apt to become ulcerative, and the list includes those contracted in coitus, the application of caustics in the hope of averting venereal infection, self-inflicted wounds, and the occasional accidents after diathermy. Of serious import and increasing frequency is the X-ray ulcer, in which total excision may offer the only hope of permanent relief. In this Society I need scarcely emphasise the importance of watching and examining with the dark-ground field every case in which the possibility of a pre-existing syphilitic infection is suspected.

(2) Acute infective conditions. The acute tuberculous ulcer on the genitals is rare, and occurs in cases of genito-urinary infection.

The ulcers are usually found in proximity to the urethra in both sexes, are superficial with ragged edges, and extremely painful. If left untreated they extend rapidly. An anal ulcer infected from bacilli-containing fæces may spread forwards and involve the posterior vaginal wall. The lymph glands in this type of infection do not usually show much reaction, but in the cases infected from external sources, as in circumcision, adenitis is a marked feature. The treatment must, of course, take cognisance of the urinary source, and while this is infective can be only palliative. Ten per cent. anæsthesin ointment, which is mildly antiseptic as well as anæsthetic, with the occasional application of pure phenol or the silver stick, are helpful. In the accidental infections in children operative procedures associated with heliotherapy are indicated.

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Diphtheritic ulcers are, like those on the tonsils, etc., of two kinds, and occur mainly in children, less frequently in women. The indolent sloughy or membranous base should lead to bacterial investigation without delay, for in the Klebs-Loeffler infection paralytic complications are just as liable to ensue as in the naso-pharyngeal cases, and the injection of specific serum should not be long delayed. The results of this may be immediate or follow only after large and repeated doses. Local applications of 1 to 2 per cent. trypanflavin solutions are valuable.

Gangrenous ulcers on the genitals have a complex bacteriology. Strepto- and staphylo-cocci, *B. pyocyaneus* and *B. fusiformis* and *Sp. refringes* in symbiosis, which are probably the commonest in the non-venereal cases, are the common causes, and one should never forget to examine the urine for sugar, and also that an underlying syphilitic infection may be masked by fulminating infections of this type.

I have succeeded in clearing up such cases with salvarsan on more than one occasion, and subsequently noted the development of a positive W.R. Typhoid and scarlet fever, and even measles, are occasionally followed by genital ulcers, and we have already considered those due to erythema multiforme and pemphigus.

The long list is not even yet exhausted, but time forbids a detailed consideration of the *ulcus vulvæ acutum* recently classified by Lipschütz, and the rarer manifestations of lupus, actinomycosis, sporotrichosis, etc., and I look to the opener of the discussion, who has had special experience in this field, to fill in the gaps left by the omission of references to tropical ulcerations and elephantiasis.